CHAPTER V  SUMMARY AND CONCLUSIONS
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The spurt in industrialisation has led not only to the production of a higher volume of goods but also increased the industrial pollution and the delivery of the industrial pollutants, wastes and effluents into the environment and thereby culminate in the environmental pollution. Toxic chemicals like ammonia, arsenic, chromium, phenols, cyanide, thiocyanides and gases like sulphur dioxide, carbon dioxide, carbon monoxide and methane, chloro-fluoro carbons, dust, sand and obnoxious gases, fumes and smoke and other effluents and wastes released by the industrial units like organic chemicals, antibiotics, dairy, plastic, paper, fertilizers, paints, pharmaceuticals, leather and tannery, drugs, cellulose, textile, thermal power plants, jute, sugar, oil refineries, iron and steel, distilleries and manufacture of alcohol are causing the air, water and land pollution and thereby resulting in the increase of environmental pollution. The increase of environmental pollution due to industrialisation has adverse effects on human health and leads to the problems such as breathlessness, common
cold, skin infection, eye irritation, dysentery, indigestion, body pains, palpitation, restlessness and mental torture in human beings causing the deadly diseases like lung cancer, blood cancer, emphysema, pneumonia, asthma, tuberculosis, bronchitis, jaundice, cholera, typhoid, heart diseases, gastroenteritis, deafness and high blood pressure and the medical disorders like abortions, conceiving problem, immature/blue baby births, infant mortality, birth of physically handicapped and mentally retarded children and the non-attaining of puberty at the proper age. Environmental pollution emanating from industrialisation brings in these health hazards on the households while reducing their ability to work and leads to the loss of mandays and employment of the households and adversely affects their earning capacity and income generation. The environmental pollution also affects the value and productive capacity and yields of the material and non-material assets of the households. Therefore, industrialisation has led to the discharge of industrial pollutants/effluents and wastes causing the air, water, land and noise pollution culminating in the environmental pollution. Environmental pollution has
adverse effects on the households. The acceleration of industrial pollution has affected not only the quality of natural resources, factor endowments and that of the human resources required for the sustenance of development but also led to deterioration in the quality of life of the households living in the area affected by the environment/industrial pollution. In this study an attempt is made to examine the industrialisation and environmental pollution and its effects on the households living in the areas affected by the industrial pollution in Pattancheru of Medak District within the purview of the suburbs of the city of Hyderabad in Andhra Pradesh.

The specific objectives of the study are:

1. To analyse the relationship between industrialisation and the environmental pollution.

2. To know the background of the households affected by the environmental pollution.

3. To examine the effects of environmental pollution on the households due to industrialisation, and

4. To analyse the measures for controlling the environmental pollution.
As regards the background of the households living in the environment/industrially polluted area of Pattancheru - the study area, most of the households (74.0 per cent) are above 40 years of age while some of these households (26.0 per cent) are below 40 years of age. More than half of the family members of the households (58.5 per cent) are above 15 years of age group, while less than half of the family members of these households (41.5 per cent) are below 15 years of age group in the study area. More than half (55.9 per cent) of the family members are females while less than half (44.1 per cent) of the family members of these households are males. Most of the households (70.0 per cent) are literates and some of these households (30.0 per cent) are illiterates in the study area. Most of the family members of the households (76.7 per cent) in the study area are literates while some of the family members of the households (23.3 per cent) are illiterates. Most of the households (66.6 per cent) living in the environment/industrially polluted area
are farmers while some of the households (25.8 per cent) are labourers and others (7.6 per cent) in the study area. Most of the households (70.1 per cent) are pursuing the dairying as secondary occupation while some of these households (29.9 per cent) are engaged in other secondary occupations. More than half of the family members of the households (52.4 per cent) are engaged in farming occupation and remaining family members of these households are engaged in dairying (28.7 per cent) as labourers (13.8 per cent) and in other occupations (5.1 per cent) in the study area. Most of the households (86.0 per cent) are having an income of below Rs.6000 per annum while some of the households (14.0 per cent) are having an income of above Rs.6000 but below Rs.18000 per annum in the study area. More than half of the households (54.8 per cent) living in the environment/industrially polluted area are residing in the semi-pucca houses while less than half of these households (45.2 per cent) are living in the huts in the study area. More than half of the households (54.0 per cent) are having moderate ventilation
facility in their houses while less than half of these households (46.0 per cent) are having poor ventilation facility in their houses in the study area. Two-thirds of the households (66.8 per cent) living in the study area are depending on the borewells and the remaining households (33.2 per cent) are depending on the dug wells and taps for getting the drinking water in the study area. All the households living in the environment/industrially polluted area are locals and all these households are facing the air, water and land pollution owing to the discharge/release of the industrial wastes/pollutants and effluents.

An analysis of the effects of air, water and land pollution (problems, diseases and disorders) on the households living in the environment/industrially polluted area (the study area) shows that all these households are affected by the air, water and land pollution and from the environmental pollution owing to the discharge of the industrial wastes/pollutants and effluents. Effects of air pollution (problems) on the households living in the environment/industrially
polluted area (the study area) indicate that a significant proportion of the households are suffering from the problem of breathlessness (33.4 per cent), common cold (60.6 per cent), skin (36.8 per cent) and eye infection (37.0 per cent) due to the air pollution in the study area. The effects of water pollution (problems) on the households living in the environment/industrially polluted area (the study area) show that a significant proportion of the households are suffering from the problem of indigestion (45.4 per cent), stomach problems (40.2 per cent), skin infection (28.6 per cent), eye infection (32.4 per cent) and body pains (43.2 per cent) due to the water pollution in the study area. The effects of land pollution (problems) on the households living in the environment/industrially polluted area (the study area) indicate that a considerable proportion of the households are suffering from the problem of skin infection (23.4 per cent), eye infection (22.4 per cent), and dysentery (2.8 per cent) due to the land pollution in the study area.

The effects of air pollution (diseases) on the
households living in the environment/industrially polluted area (the study area) indicate that a significant proportion of the households are suffering from diseases of lung cancer (4.0 per cent), blood cancer (4.2 per cent), emphysema (17.8 per cent), pneumonia (38.8 per cent), asthma (42.2 per cent), tuberculosis (16.2 per cent) and bronchitis (29.6 per cent) due to the effects of air pollution in the study area. Effects of water pollution (diseases) on the households living in the environment/industrially polluted area (the study area) show that a significant proportion of the households are suffering from the diseases of jaundice (29.4 per cent), cholera (17.2 per cent), typhoid (34.4 per cent), dysentery (24.2 per cent) and heart diseases (30.4 per cent) due to the effects of water pollution in the study area. The effects of land pollution (diseases) on the households living in the environment/industrially polluted area (the study area) indicate that a significant proportion of the households are suffering from the diseases of skin cancer (15.6 per cent), screeze (33.6 per cent), and
filaria (8.8 per cent) due to the effects of land pollution in the study area. An analysis of the disorders faced by the women of these households in the study area reveals that a significant proportion of the women are facing the disorders (effects) of the failure to conceive (15.3 per cent), abortions (22.7 per cent), giving births to the immature babies (18.3 per cent) and physically handicapped and mentally retarded children (3.5 per cent) due to the environment/industrial pollution in the study area. The effects of environmental pollution on the children of the households in the study area indicate that a considerable proportion of the households had undergone the child deaths (27.2 per cent) in their families, while a significant proportion of the children (49.3 per cent) of the households are having improper growth due to the environment/industrial pollution in the study area. Moreover, a considerable proportion of these households (17.2 per cent) had undergone the death of their family members (adults) owing to the environment/industrial pollution in the study area. Based on the analysis,
the first hypothesis of the study that, there are no effects (problems, diseases and disorders) of environmental pollution on the households living in the environment/industrially polluted area (the study area) is rejected. Hence, there are effects (problems, diseases and disorders) of environmental pollution on the households living in the environment/industrially polluted area (the study area).

An analysis of the affected and the non-affected members (family members including the households) living in the environment/industrially polluted area (the study area) shows that, a significant proportion (62.8 per cent) of the members (family members including the households) are affected due to the environment/industrial pollution in the study area. The result of the Chi-Square test reveals that there is significant association between the locations and the affected and non-affected members (family members including the households) owing to the environment/industrial pollution in the study area. The second hypothesis of the study that, there is no significant association
between the locations and the affected and non-affected members (family members including the households) owing to the environment/industrial pollution in the study area is rejected. Hence, there is significant association between the locations and the affected and non-affected members (family members including the households) owing to the environment/industrial pollution in the study area. Moreover, a significant proportion of the male members (59.4 per cent) and the female members (66.6 per cent) are affected due to the environment/industrial pollution in the study area. The result of the Chi-Square test reveals that there is significant association between the locations and the affected and non-affected male members owing to the environment/industrial pollution in the study area. The result of the Chi-Square test also indicates that there is significant association between the locations and the affected and non-affected female members owing to the environment/industrial pollution in the study area.

The age-wise distribution of the affected members (family members including the households) due to the
environment/industrial pollution in the study area shows that a significant proportion of the affected members (66.7 per cent) are of the age group of above 18 years while a considerable proportion of the affected members (33.3 per cent) are of the age group of below 18 years in the study area. The sex-wise distribution of the affected members due to the environment/industrial pollution in the study area shows that, more than half of the affected members (50.4 per cent) are males while less than half of these affected members (49.6 per cent) are females.

An analysis of loss of mandays and employment and the loss of income due to the loss of mandays and employment of the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the households (96.6 per cent) are incurring the loss of mandays due to the environment/industrial pollution in the study area. Out of the total households incurring the loss of mandays in the study area, a significant proportion of the households (72.9 per cent) are incurring the loss of mandays of below
120 days while a considerable proportion of these households (27.1 per cent) are incurring the loss of mandays of above 120 days but below 200 days due to the environment/industrial pollution in the study area. The loss of employment to the households (family members) living in the environment/industrially polluted area (the study area) indicates that a considerable proportion of the households (26.6 per cent) have incurred the loss of employment of their family members due to the environment/industrial pollution in the study area. The loss of income due to the loss of mandays of the households living in the environment/industrially polluted area (the study area) indicates that, a significant proportion of the households (97.3 per cent) are incurring the loss of income due to the loss of mandays of below Rs. 3000 while a considerable proportion of these households (2.7 per cent) are incurring the loss of income due to the loss of mandays of above Rs. 3000 but below Rs. 7000 owing to the environment/industrial pollution in the study area. The loss of income due to the loss of employment of the households
(family members) living in the environment/industrially polluted area (the study area) shows that, a significant proportion of households (81.2 per cent) are incurring the loss of income due to the loss of employment of their family members of below Rs.3000 while a considerable proportion of these households (18.8 per cent) are incurring the loss of income due to the loss of employment of their family members of above Rs.3000 but below Rs.8000 due to the environment/industrial pollution in the study area. The loss of income due to the loss of mandays and employment of the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the households (97.2 per cent) are incurring the loss of income due to the loss of mandays and employment of below Rs.6000 while a considerable proportion of these households (2.8 per cent) are incurring the loss of income of above Rs.6000 but below Rs.10000 due to the environment/industrial pollution in the study area.

An analysis of the loss of material and non-material assets and the loss of income due to the loss of
productivity/yield of the material and non-material assets of the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the households (51.6 per cent) are incurring the loss of the material assets due to the environment/industrial pollution in the study area. Out of the total households incurring the loss of the material assets in the study area, a significant proportion of the households (77.1 per cent) are incurring the loss of material assets of below Rs.60000, while a considerable proportion of these households (22.9 per cent) are incurring the loss of material assets of above Rs.60000 but below Rs.200000 due to the environment/industrial pollution in the study area. The loss of non-material assets of the households living in the environment/industrially polluted area (the study area) indicates that, a significant proportion of the households (45.4 per cent) are incurring the loss of the non-material assets due to the environment/industrial pollution in the study area. Out of the total households incurring the loss of the
non-material assets in the study area a significant proportion of the households (91.2 per cent) are incurring the loss of the non-material assets of below Rs. 15000 while a considerable proportion of these households (8.8 per cent) are incurring the loss of the non-material assets of above Rs. 15000 but below Rs. 25000 due to the environment/industrial pollution in the study area.

The loss of the material and non-material assets of the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the households (74.4 per cent) are incurring the loss of the material and non-material assets due to the environment/industrial pollution in the study area. Out of the total households incurring the loss of the material and non-material assets in the study area, a significant proportion of the households (93.8 per cent) are incurring the loss of the material and non-material assets of below Rs. 150000 while a considerable proportion of these households (6.2 per cent) are incurring the loss of the material and non-material assets of above Rs. 150000
but below Rs. 250000 due to the environment/industrial pollution in the study area.

The loss of income due to the loss of productivity of the material assets of the households living in the environment/industrially polluted area (the study area) indicates that, a significant proportion of the households (80.4 per cent) are incurring the loss of income due to the loss of productivity of the material assets owing to the environment/industrial pollution in the study area. Out of the total households incurring the loss of income due to the loss of productivity of the material assets in the study area, a significant proportion of the households (77.9 per cent) are incurring the loss of income due to the loss of productivity of the material assets of below Rs. 15000 while a considerable proportion of these households (22.1 per cent) are incurring the loss of income of above Rs. 15000 but below Rs. 25000 due to the environment/industrial pollution in the study area. The loss of income due to the loss of productivity/yield of the non-material assets of the households living in the
environment/industrially polluted area (the study area) shows that a significant proportion of the households (49.2 per cent) are incurring the loss of income due to the loss of productivity/yield of the non-material assets owing to the environment/industrial pollution in the study area. Out of the total households incurring the loss of income due to the loss of productivity/yield of the non-material assets in the study area, a significant proportion of the households (55.7 per cent) are incurring the loss of income of below Rs.3000 while a considerable proportion of these households (44.3 per cent) are incurring the loss of income due to the loss of productivity/yield of the non-material assets of above Rs.3000 but below Rs.5000 owing to the environment/industrial pollution in the study area. The loss of income due to the loss of productivity/yield of the material and non-material assets of the households living in the environment/industrially polluted area (the study area) indicates that, a significant proportion of the households (88.2 per cent) are incurring the loss of income due to the loss of productivity/yield
of the material and non-material assets owing to the environment/industrial pollution in the study area. Out of the total households incurring the loss of income due to the loss of productivity/yield of the material and non-material assets in the study area, a significant proportion of the households (75.1 per cent) are incurring the loss of income of below Rs.15000 while a considerable proportion of these households (24.9 per cent) are incurring the loss of income due to the loss of productivity/yield of the material and non-material assets of above Rs.15000 but below Rs.30000 owing to the environment/industrial pollution in the study area.

The analysis of the mean values of the loss of the material and non-material assets, the loss of income due to the loss of productivity/yield of the material and non-material assets, and the loss of income due to the loss of mandays and employment of the households living in the environment/industrially polluted area (the study area) indicates that, the overall (combined) mean value of the loss of the material and non-material assets of these households due to the environment/
industrial pollution in the study area has been Rs. 44464 while the overall (combined) mean value of the loss of income due to the loss of productivity/yield of the material and non-material assets of these households owing to the environment/industrial pollution in the study area has been Rs. 12672, and the overall (combined) mean loss of the income due to the loss of mandays and employment of these households due to the environment/industrial pollution in the study area has been Rs. 2487 and the mean values of these losses have varied considerably among the five locations of the study area. The result of the analysis of variance shows that the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution has varied considerably in different locations of the study area. The third hypothesis of the study that, there is no significant difference between the various mean losses of the households (loss of
the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution in different locations of the study area is rejected. Hence, there is significant difference between the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution in different locations of the study area.

An analysis of the mean values of these losses of the below and above mean income groups of the households living in the environment/industrially polluted area (the study area) shows that the overall (combined) mean value of the loss of the material and non-material assets of below mean income group of the households due to the environment/industrial pollution in the study area has been Rs.31499 while for the above mean income group of the
households it has been Rs. 56240. The overall (combined) mean value of the loss of the income due to the loss of productivity/yield of the material and non-material assets of below mean income group of the households due to the environment/industrial pollution in the study area has been Rs. 9736 while for the above mean income group of the households it has been Rs. 13794. The overall (combined) mean value of the loss of income due to the loss of mandays and employment of below mean income group of the households due to the environment/industrial pollution in the study area has been Rs. 2470 while for the above mean income group of the households it has been Rs. 2503. The mean values of these losses for the below mean income group of the households and the above mean income group of the households have varied considerably among the five locations of the study area. The result of the analysis of variance shows that the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment)
owing to the environment/industrial pollution with respect to the households below the mean income and the households above the mean income groups have varied considerably in different locations of the study area. The fourth hypothesis of the study that there is no significant difference between the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution with respect to the households below the mean income and the households above the mean income groups in different locations of the study area is rejected. Hence, there is significant difference between the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution with respect to the households below the mean income and the
households above the mean income group in different locations of the study area.

The analysis of the mean values of the loss of the material assets, non-material assets, the loss of income due to the loss of productivity/yield of the material assets and that of the non-material assets, the loss of income due to the loss of mandays and that of the employment of the households living in the environment/industrially polluted area (the study area) shows that, the overall (combined) mean value of the loss of the material assets of the households due to the environment/industrial pollution in the study area has been Rs.59359 while for the loss of non-material assets of these households it has been Rs.7462. The overall (combined) mean value of the loss of income due to the loss of productivity/yield of the material assets of these households owing to the environment/industrial pollution in the study area has been Rs.9387 while for the loss of income due to the loss of productivity/yield of the non-material assets of these households it has been Rs.3688. The overall (combined) mean loss of income
due to the loss of mandays of these households owing to the environment/industrial pollution in the study area has been Rs. 1704 while for the loss of income due to the loss of employment of these households it has been Rs. 3200. The mean values of these losses of the households have varied considerably among the five locations of the study area. An analysis of the consistency of these losses of the households living in the environment/industrially polluted area (the study area) shows that, the co-efficient of variation of the loss of the material assets (79.51 to 97.72 per cent) and the non-material assets (74.20 to 93.01 per cent), the loss of income due to the loss of productivity/yield of the material assets (55.73 to 62.45 per cent) and the non-material assets (51.39 to 53.26 per cent), loss of income due to the loss of mandays (39.04 to 49.79 per cent) and employment (19.36 to 26.12 per cent) of the households has been relatively consistent in the three locations as compared to this in the other two locations due to the environment/industrial pollution in the study area. Therefore, the co-efficient of variation of these
losses of the households owing to the environment/industrial pollution has been relatively consistent in most of the locations of the study area. These losses also depict a considerable variation among the households in the five locations of the study area. The fifth hypothesis of the study that there is no consistency of the loss of material and non-material assets, the loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment of the households owing to the environment/industrial pollution in the study area is rejected. Hence, there is consistency of the loss of material and non-material assets, the loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment of the households owing to the environment/industrial pollution in the study area.

An analysis of medical expenditure of the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the
households are incurring the expenditure on the medical consultancy (92.2 per cent) of below Rs. 600 while a considerable proportion of the households (7.8 per cent) are incurring the expenditure on medical consultancy of above Rs. 600 but below Rs. 1000 due to the environment/industrial pollution in the study area. The expenditure on the medicines of these households indicates that, a significant proportion of the households (78.8 per cent) are incurring the expenditure on the medicines of below Rs. 1500 while a considerable proportion of these households (21.2 per cent) are incurring the expenditure on the medicines of above Rs. 1500 but below Rs. 2500 due to the environment/industrial pollution in the study area. The expenditure on the travel for medical treatment of these households in the study area shows that a significant proportion of the households (98.8 per cent) are incurring the expenditure of below Rs. 1200 while a considerable proportion of these households (1.2 per cent) are incurring the expenditure on the travel for medical treatment of above Rs. 1200 but below Rs. 2000 due to the environment/industrial pollution in the study area.
The expenditure on the medical disorders of these households in the study area indicates that, a significant proportion of the households (80.8 per cent) are incurring the expenditure on the medical disorders due to the environment/industrial pollution in the study area. Out of the total households incurring the expenditure on the medical disorders in the study area, a significant proportion of the households (64.6 per cent) are incurring the expenditure of below Rs.900 while a considerable proportion of these households (35.4 per cent) are incurring the expenditure on the medical disorders of above Rs.900 but below Rs.1500 due to the environment/industrial pollution in the study area. The expenditure on the special diet of these households in the study area shows that, a significant proportion of the households (60.4 per cent) are incurring the expenditure on the special diet in the study area. Out of the total households incurring the expenditure on the special diet in the study area, a significant proportion of the households (84.4 per cent) are incurring the expenditure of below Rs.600 while a considerable proportion
of these households (15.6 per cent) are incurring the expenditure on the special diet of above Rs. 600 but below Rs. 1000 due to environment/industrial pollution in the study area. The expenditure on the maintenance of sanitation of these households in the study area shows that, a considerable proportion of the households (34.4 per cent) are incurring the expenditure on the maintenance of sanitation due to the environment/industrial pollution in the study area. Out of the total households incurring the expenditure on the maintenance of sanitation in the study area, a significant proportion of the households (97.1 per cent) are incurring the expenditure of below Rs. 600 while a considerable proportion of these households (2.9 per cent) are incurring the expenditure on the maintenance of sanitation of above Rs. 600 but below Rs. 1200 due to the environment/industrial pollution in the study area. The medical expenditure of these households in the study area shows that, a significant proportion of the households (65.8 per cent) are incurring the medical expenditure of below Rs. 3000 while a considerable proportion of these
households (34.2 per cent) are incurring the medical expenditure of above Rs.3000 but below Rs.5000 due to the environment/industrial pollution in the study area.

The expenditure on the social celebrations of the households living in the environment/industrially polluted area (the study area) shows that, a considerable proportion of the households (17.2 per cent) are incurring the expenditure on the social celebrations due to the environment/industrial pollution in the study area. Out of the total households incurring the expenditure on the social celebrations in the study area, a significant proportion of the households (83.7 per cent) are incurring the expenditure on the social celebrations of below Rs.5000 while a considerable proportion of these households (16.3 per cent) are incurring the expenditure of above Rs.5000 but below Rs.15000 due to the environment/industrial pollution in the study area.

An analysis of the mean values of the medical and social expenditure of the households living in the environment/industrially polluted area (the study area) shows that, the overall (combined) mean value of the
medical expenditure of these households has been Rs. 3301 while for the social expenditure of these households it has been Rs. 5371 owing to the environment/industrial pollution in the study area. The mean values of the medical and that of the social expenditure of these households have varied considerably among the five locations of the study area. The result of the analysis of variance shows that the various types of mean expenditure (the medical and social expenditure) of the households owing to the environment/industrial pollution has varied considerably in different location of the study area. The sixth hypothesis of the study that there is no significant difference between the various types of mean expenditure (the medical and social expenditure) of the households owing to the environment/industrial pollution in different locations of the study area is rejected. Hence, there is significant difference between the various types of mean expenditure (the medical and social expenditure) of the households owing to the environment/industrial pollution in different locations of the study area.
An analysis of the mean values of the medical and social expenditure of the below and above mean income groups of the households living in the environment/industrially polluted area (the study area) indicates that, the overall (combined) mean value of the medical expenditure of the below mean income group of the households has been Rs.3354 while for the above mean income group of the households it has been Rs.3578 owing to the environment/industrial pollution in the study area. The overall (combined) mean value of the social expenditure of the below mean income group of the households has been Rs.5085 while for the above mean income group of the households it has been Rs.5568 owing to the environment/industrial pollution in the study area. The mean values of the medical and the social expenditure of the below and above mean income groups of these households have varied considerably among the five locations of the study area. Moreover, an analysis of the social problems of getting the marriage alliances for the family members of the households living in the environment/industrially polluted area (the study area)
shows that, a significant proportion of the households (66.4 per cent) are facing the social problems of getting the marriage alliances for their family members due to the effects of the environment/industrial pollution in the study area. The social separation problem faced by these households in the study area shows that, a significant proportion of the households (66.0 per cent) are facing the social separation problem due to the environment/industrial pollution in the study area.

The control of environmental pollution has become the utmost requisite for maintaining the environmental quality while sustaining the development. However, the control of environmental pollution has become a complex task necessitating the effective implementation of various measures involving the industry, government and the voluntary organisations for achieving the environmental quality associated with that of the sustainable development to improve the quality of life of the people. An analysis of the measures to be adopted by the industry, government and that of the voluntary organisations for controlling environment/industrial pollution as suggested
by the households living in the environment/industrially polluted area (the study area) shows that, a significant proportion of the households have suggested that the industry has to alter the technology (44.0 per cent) and change the mode of production (43.4 per cent) while a considerable proportion of these households have indicated that the industry has to adopt the self-pollution control measures (12.6 per cent) for controlling/minimising the environment/industrial pollution in the study area. Moreover, a significant proportion of these households (54.2 per cent) have suggested that the government has to follow the non-allocation of credit to the polluting industries, implement the pollution laws effectively and impose the taxes on the polluting industries while a considerable proportion of these households (45.8 per cent) have suggested that the government has to cancel the licences of the polluting industries for controlling/minimising the environment/industrial pollution in the study area. A significant proportion of these households (84.4 per cent) have suggested that the voluntary organisations have to
pursuade the industry to adopt the pollution prevention methods and organise the movements for the effective implementation of the pollution control Acts by the government while a considerable proportion of these households (15.6 per cent) have suggested that the voluntary organisations have to increase the awareness regarding the environment/industrial pollution in the public for controlling/minimising the environment/industrial pollution in the study area. The results of the analysis of variance shows that there is significant difference between the various locations of the households who have suggested the measures to be taken by the industry, government and the voluntary organisations for controlling the environment/industrial pollution in the study area. The seventh hypothesis of the study that, there is no significant difference between the various locations of the households who have suggested the measures to be adopted by the industry, the government and the voluntary organisations for controlling the environment/industrial pollution in the study area is rejected. Hence, there is significant difference between
the various locations of the households who have suggested the measures to be adopted by the industry, the government and the voluntary organisations for controlling the environment/industrial pollution in the study area.

The Andhra Pradesh Pollution Control Board (1976) has been constituted by the Government of Andhra Pradesh to discharge several functions for controlling/minimising the environmental pollution arising from the industrial pollution. Based on the surveys (of the expert technical bodies/committees) conducted by this board, it has brought to the notice of the Government of Andhra Pradesh that the discharge of industrial wastes and pollutants is increasing rapidly and it is leading to the environmental pollution and urged the Government of Andhra Pradesh and the industries and the polluters to take necessary steps for minimising the industrial pollution. Through the adoption of recycling of the wastes, pollutants and effluents using the treatment plants and equipment, changing the production techniques and methods, development of green plants and greater commitment and co-operation of
the industry, the government and the voluntary organisations. It is possible to...
adopting various measures. For controlling the environmental pollution, the imposition of pollution taxes on the industrial units has been advocated considering the advantages of providing incentives to adopt superior technologies with no pollution by the industry, getting substantial financial resources to the public exchequer and greater incremental benefits to the society as compared to the cost of environmental pollution control. Moreover, the extension of the investment requirements on a concessional basis over the long term through the financial institutions and the other financial and fiscal incentives for developing and adopting the pollution control/abatement technologies and equipment, conversion of the industrial wastes into bye-products using it as a raw material, altering the production techniques, methods and processes periodical monitoring of the industrial pollution control by the experts in the area is to be done for controlling the increase of the environmental pollution. The effective implementation of the Environmental Protection Act of 1986, the Air (Prevention and Control of Pollution)
Act of 1981 and the Water (Prevention and Control of Pollution) Act of 1974 and 1978 and other related Acts and the imposition of penalties on the industrial units for violating the regulation of the discharge of the industrial pollutants within the limits set by pollution control boards and that of the environmental standards and the effective functioning of the pollution control boards and that of the voluntary organisations in bringing to the notice of the government regarding the adverse effects of the environmental pollution increased by the growth of industrial pollution demanding the implementation of the various pollution control measures by the industries in accordance with the regulations of these Acts for controlling the environmental pollution within the tolerable levels and organise the movements for spreading the environmental awareness in the people is necessary for controlling the environmental pollution to maintain the environmental quality while achieving the sustainable development for improving the quality of life of the people.
CONCLUSIONS

The specific conclusions of the study are the following.

1. There are effects (problems, diseases and disorders) of environmental pollution on the households living in the environment/industrially polluted area (the study area).

2. There is significant association between the locations and the affected and non-affected members (family members including the households) owing to the environment/industrial pollution in the study area.

3. There is significant difference between the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution in different locations of the study area.
4. There is significant difference between the various mean losses of the households (loss of the material and non-material assets, loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment) owing to the environment/industrial pollution with respect to the households below the mean income and the households above the mean income groups in different locations of the study area.

5. There is consistency of the loss of material and non-material assets, the loss of income due to the loss of productivity/yield of the material and non-material assets and the loss of income due to the loss of mandays and employment of the households owing to the environment/industrial pollution in the study area.

6. There is significant difference between the various types of mean expenditure (the medical and social expenditure) of the households owing to the environment/industrial pollution in different locations of the study area, and
7. There is significant difference between the various locations of the households who have suggested the measures to be adopted by the industry, the government and the voluntary organisations for controlling the environment/industrial pollution in the study area.

Environmental pollution arising from the increase of industrial pollution in the study area has to be controlled/minimised by adopting the appropriate measures and by the concerted efforts of the industry, government and the voluntary organisations and the effective functioning of pollution control board for maintaining the environmental quality to protect the quality of natural resources, factor endowments and that of the human resources required for achieving the sustainable development for improving the quality of life of the people.